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TRHYPOCHTHONIELLUS WILLMANN, A NEWLY RECORDED GENUS OF ORIBATID MITES FROM CHINA WITH DESCRIPTION OF A NEW SPECIES (ACARI, ORIBATIDA, TRHYPOCHTHONIIDAE)

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Abstract A new species *Trhypochthoniellus qianensis* sp. nov. is described in this paper. This is the first record of the genus *Trhypochthoniellus* Willmann, 1928 from China.

Key words Oribatida; Trhypochthoniidae; *Trhypochthoniellus*; new species; China.

Introduction

Trhypochthoniellus was established by Willmann (1928) as a subgensus of *Trhypochthonius* Berlese, 1904 basd on *Trhypochthonius (Trhypochthoniellus) setosus* Willmann, 1928. Willmann (1931) raised this subgensus to generic status. Aoki (1964) established *Hydronothrus* with type species *Hydronothrus crispus* Aoki, 1964, and then some species of the genus were recorded (Habeeb, 1981; Fain and Lambrechts, 1987). Subías (2004) considered *Hydronothrus* as secondary homonym of *Trhypochthoniellus*. Fujikwaw (1972a) reported *Trhypochthonius excavatus* (Willmann, 1919), but later found this species was misidentified and described it as a new species *Trhypochthoniellus ashoroensis* Fujikawa (2000) based on comparing generic characters of *Trhypochthoniellus* and *Trhypochthonius*. Up to now, there are seven species (Berlese, 1904; Willmann, 1928, 1931; Hammer, 1982; Fujikawa, 2000; Kuriki, 2005) and two subspecies (Hammer, 1952; Pérez-Íñigo, 1988) of *Trhypochthoniellus* Willmann, 1928 reported worldwide (Subías, 2004), but none has ever been reported from China (Wang *et al*., 2002; Liu *et al*., 2009; Hu *et al*., 2010). In this paper, one new species of the genus is described from China, which is also the first species of this genus recorded in China.

The specimens checked were cleared in lactic acid and preserved in 75% ethanol. Drawing was made with a phase contrast microscope with drawing tube (Leica, Germany). Measurements are given in micrometre (μm). All specimens are deposited in the Instiute of Entomology, Guizhou University.

Trhypochthoniellus **Willmann, 1928 New record to China**

Type species: *Trhypochthonius (Trhypochthoniellus) setosus* Willmann, 1928.

Light yellow to yellowish brown mites. Trichobothrium developed or wholly absent. Rostrum anteriorly rounded or poinded. Exobothridial seta present. 14 pairs of dorsal setae; 7-11 pairs of genitial setae observable, aggenital ones absent; one pair of anal and two adanal setae present. Epimeral setal formula: 3-1-3-2. Legs triadactylous.

Trhypochthoniellus qianensis **sp. nov.** (Figs. 1-11)

Measurements: Holotype, length 460, width 290; *ro*: 38.4, *le*: 51.2, *in*: 108.8, *ss*: 25.6, *ex*: 12.8, *ro-ro*: 32, *ro-le*: 25.6, *le-le*: 19.2, *le-in*: 87.0, *in-in*: 76.8, *ss-in*: 10.2, *bo-bo*: 99.8, *ss-ex*: 7.7, c_1: 57.6, c_2: 19.2, c_3: 19.2, *cp*: 51.2, d_1: 64, d_2: 79.3, e_1: 71.7, e_2: 83.2, f_2: 38.4, h_1: 76.8, h_2: 76.8, h_3: 78.1, p_1: 66.6, p_2: 79.4, c_1-c_1: 44.8, c_1-c_2: 53.7, c_2-c_3: 25.6, c_1-d_1: 51.2, d_1-d_1: 51.2, d_1-e_1: 102.4, d_2-d_2: 115.2, e_1-e_1: 70.4, e_1-f_1: 69.1, f_1-f_1: 105, h_1-h_1: 105, h_1-p_1: 25.6, p_1-p_1: 69.1, h_2-h_2: 205. Paratypes, length 430 (455) 485, width 280 (291) 305.

Body. Yellow-coloured.

Prodorsum. Rostrum somewhat rounded and projected at tip (Figs. 1-2) with undulating ridges, which run almost parallel and bear rostral setae on their anterior extremities. A faint transverse ridge connecting insertions of setae *le*. All prodorsal setae glabrous. Setae *ro* a little longer than their mutual distance. Setae *le* long and extending forwards in front of anterior margin of rostrum. Setae *le* about 2.67 × as long as their mutual distance. Setae *in* conspicuously long, longer than the distance of *le-in*, directed backward. Sensillus fusiform with a thin base stem,

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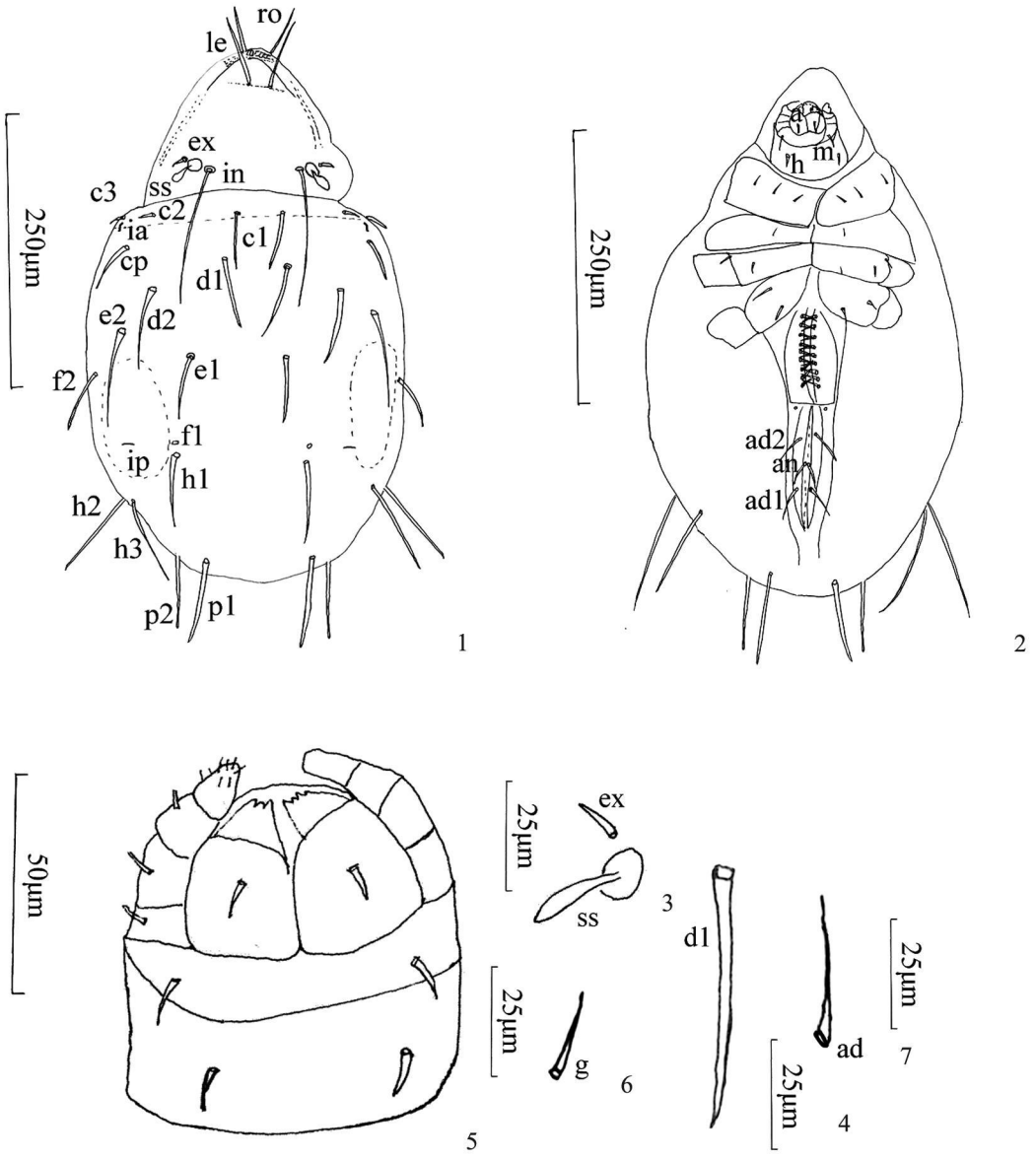


Figs 1-7. *Trhypochthoniellus qimensis* sp. nov. 1. Dorsal view. 2. Ventral view. 3. *ss* and *ex*. 4. Setae d_1. 5. Infracapitulum. 6. Genital setae. 7. Adanal setae.

shorter than setae *ro* and twice as long as exobothridial setae (*ex*). setae *ex* short, smooth, situated on antero-lateral side of *ss* (Fig. 3).

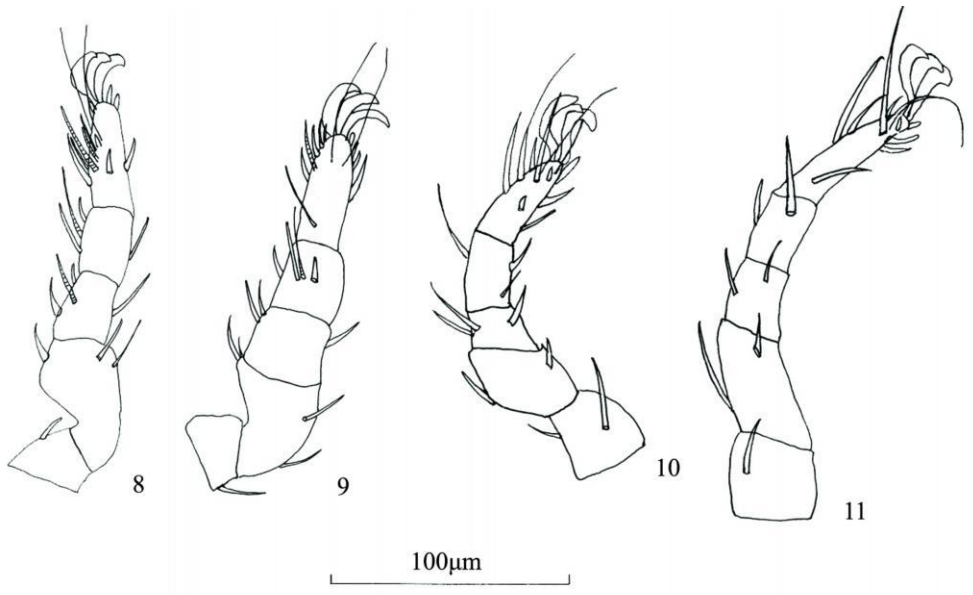
Relative lengths and distances of prodorsal setae: *in* > *bo*-*bo* > *le*-*in* > *in*-*in* > *le* > *ro* > *ro*-*ro* > *ro*-*le* = *ss* > *le*-*le* > *ex* > *ss*-*in* > *ss*-*ex*.

Notogaster: Anterior border somewhat straight. A broad transparent band present on anterior margin. 14 pairs of notogastral setae present, glabrous (Fig. 4), p_3 lacking; f_1 vestigial alveoli and situated anterior to the insertions of setae h_1; e_2 the longest, c_2 equal to c_3, and the shortest in all notogasteral setae. The mutual distance of h_2 the largest, the mutual distance of f_1 equal to h_1, little shorter than the mutual distance of d_2. Two pairs of fissures (*ia* and *ip*) well visible; *ia* located laterally and just behind insertion of c_3, *ip* situated on level of f_1.

Relative lengths and distances of notogastral setae: h_2-h_2 > d_2-d_2 > f_1-f_1 = h_1-h_1 > d_1-e_1 > e_2 > p_2 > d_2 > h_3 > h_1 = h_2 > e_1 > e_1-e_1 > e_1-f_1 = p_1-p_1 > p_1 > d_1 > c_1 > c_1-c_2 > cp = c_1-d_1 = d_1-d_1 > c_1-c_1 > f_2 > h_1-p_1 = c_2-c_3 > c_2 = c_3.

Ventral region: All ventral setae glabrous. Three pairs of setae (*a*, *m* and *h*) on infracapitulum short, inner ones very small and hard to recognize. Setal formula of the pedipalp: 1-1-1-8 (Fig. 5). Epimeral setal formula: 3-1-2-3. Genital plates with nine pairs of setae (Fig. 6), no aggenital setae present. One pair of anal and two pairs of long adanal setae (Fig. 7) present. Anal and adanal lyrifissures rounded.

Legs: All legs tridactylous, median claw shorter than lateral claws (Figs. 8-11). Leg I and leg II



Figs. 8-11. *Trhypochthoniellus qianensis* sp. nov. 8. Leg I. 9. Leg II. 10. Leg III. 11. Leg IV.

strong, and leg III and leg IV rather long. Leg chaetotaxy: famulus: I: 1-3-3 (1) -3 (1) -10 (3); II: 1-4-3-3-11 (1); III: 2-2-3-3-11; IV: 1-2-2-2-10.

Holotype female (in alcohol) from Gaopo (26°18′N, 106°49′E, alt. 1 432 m), Huaxi, Guiyang, Guizhou Province, China, 1 May 2008, collected by HU Zhan-Yu. Paratypes: 4 adults, with same data as holotype.

Remarks: The new species closely resembles to *T. portias* Fujikawa, 2000, from Japan, but can be distinguished from the latter by the following characters: 1) dorsal setae c_2 and c_3 almost in same length and size, and c_2 shorter than the mutual distance of c_2-c_3 in the new species, while in the latter c_2 much longer than c_3 and the distance of c_2-c_3; 2) setae e_1 not extending to the alveoli of f_1 in the new species, while e_1 extending beyond alveoli of f_1 in the known species; 3) genital setae glabrous in the former but ramiferous in the latter; 4) in the new species chaetotaxy of legs as follows: I: 1-3-3 (1) -3 (1) -10 (3); II: 1-4-3-3-11 (1); III: 2-2-3-3-11; IV: 1-2-2-2-10. While in the known species, I: 1-6-3-4-12; II: 1-5-3-3-11; III: 2-2-2-2-10; IV: 1-2-2-2-11.

Etymology: The species is named after Qian which is the alias of the Guizhou Province, where the type specimens were collected.

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礼服甲螨科中国新纪录属及一新种记述 (蜱螨亚纲，甲螨目，礼服甲螨科)

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摘　要　记述了采自贵州省贵阳市花溪区高坡的礼服甲螨科中国新纪录属拟礼服甲螨属 *Trhypochthoniellus* Willmann, 1928 及其 1 新种黔拟礼服甲螨 *Trhypochthoniellus qianensis* sp. nov.。新种与分布于日本的孔拟礼服甲螨 *Trhypochthoniellus portlus* Fujikawa, 2000 近似。区别为：新种后背板毛 c_2 和 c_3 长度相等，且毛的长度短于 c_2-c_3 间的距离，孔拟礼服甲螨 c_2 毛的长度远远长于 c_3，且 c_2 毛的长度长于 c_2-c_3 间的距离；新种 e_1 毛的长度未达到 f_1 的着生点，近似种 e_1 毛的长度超过了 f_1 的着生点；新种生殖毛光滑，而近似种生殖毛粗糙；新种足的毛序是Ⅰ：1-3-3（1）-3（1）-10（3）；Ⅱ：1-4-3-3-11（1）；Ⅲ：2-2-3-3-11；Ⅳ：1-2-2-2-10，近似种足的毛序是Ⅰ：1-6-3-4-12；Ⅱ：1-5-3-3-11；Ⅲ：2-2-2-2-10；Ⅳ：1-2-2-2-11。

关键词　甲螨目，礼服甲螨科，拟礼服甲螨属，新纪录属，新种.

中图分类号　Q959.226

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